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ABSTRACT

British Columbia's (B.C.) performance in college and university education as measured by per-capita degree and enrollment rates for 1961 to 1980 is examined. The rates are obtained by dividing degree and enrollment counts by the numbers in the 18-24 year age group. Comparisons of the B.C. rates are made with the provinces and the national average. Between 1977 and 1981, B.C., in comparison to other Canadian jurisdictions, granted the lowest number of bachelor's and first-professional degrees. At the same time, B.C.'s share of Canada's youth population has been increasing while its share of degrees has been decreasing. Among the 10 provinces, B.C. ranked ninth in granting professional degrees. B.C.'s rank in degree-granting per capita among the 10 provinces by field of study from 1961 through 1979 is indicated, and per capita degree output in B.C. and the other provinces for the major professional fields of study is graphically represented. The shift in provincial rank and degree shortfall is shown when the migrant adjustment is applied to the per capita rates. There is only a marginal improvement in B.C.'s position. The enrollment rate comparison shows the same general results as the degree comparison: the odds of being enrolled are lower in B.C. than for Canada and for each of the regions. For the rest of Canada there are 13 full-time university students for 10 in B.C. on a per capita basis. Data are presented on part-time university enrollment, university transfer enrollment, undergraduate and graduate enrollments, and career-technical enrollments. In addition, geographic differences in enrollment rates within B.C. are examined. (SW)

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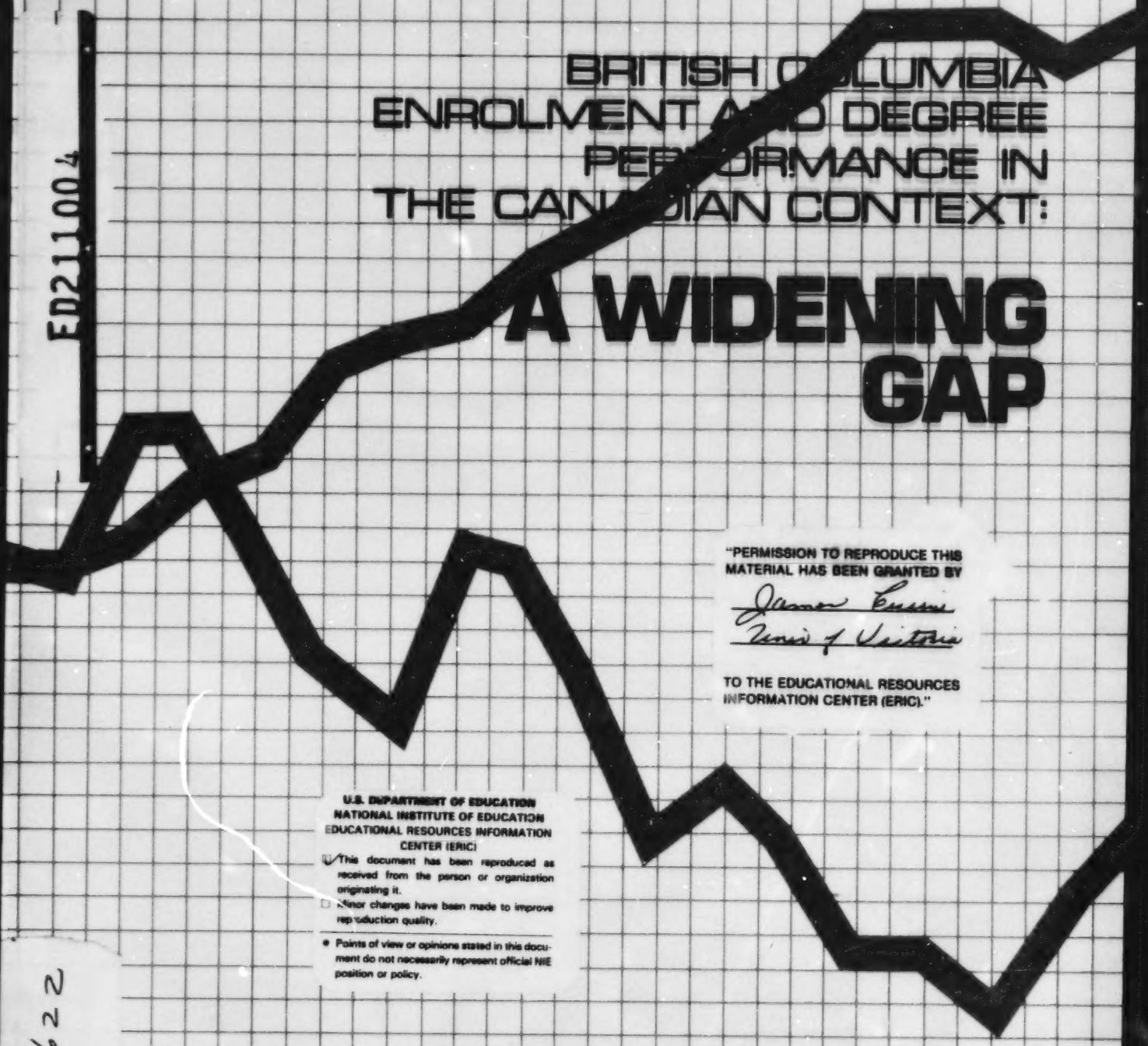
A Study Prepared for
The Universities Council
of British Columbia

ED211004

BRITISH COLUMBIA ENROLMENT AND DEGREE PERFORMANCE IN THE CANADIAN CONTEXT:

A WIDENING GAP



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CHARLES GALLAGHER
RONALD MERNER

A STUDY PREPARED BY THE UNIVERSITY OF VICTORIA WITH A GRANT IN AID BY THE UNIVERSITIES COUNCIL OF BRITISH COLUMBIA.

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RONALD MERNER

OFFICE OF INSTITUTIONAL ANALYSIS
UNIVERSITY OF VICTORIA

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I — INTRODUCTION

This report examines British Columbia's performance in college and university education as measured by per-capita degree and enrolment rates. The rates are obtained by dividing degree and enrolment counts by the numbers in the 18-24 year age group or "youth population." Comparisons of the B.C. rates are made with the provinces and the national average. The data cover the period from 1961 to 1980.

The information comes mainly from secondary sources. Generally, the numbers can be checked against Statistics Canada publications, but in a few cases Statistics Canada has provided information by special arrangement. The source data and details concerning definitions and methods of calculation are set out in a separate appendix.[1]

While the methods of this study are elementary, the results may be useful to those concerned with monitoring the state of higher education in British Columbia. As things stand, the Statistics Canada data on enrolment and degrees are scattered through many publications and only occasionally are shown in time series. It is possible to conclude from cursory observation of these reports that the B.C. numbers are rising, at least over certain periods, and that they comfortably exceed the absolute numbers for many provinces. Of course to make sensible judgements, the numbers must be expressed relative to population and plotted for time and regional comparisons. When such plotting is done, it becomes apparent that the B.C. measures have been steadily declining over the last 15 years. Currently the Province is at or near the bottom of the national ranking in almost every comparison. If one believes in trends the situation is not improving.

The results suggest that factors are in effect which produce lower levels of participation in higher education in British Columbia than in other Canadian jurisdictions. The final section of the report demonstrates that a large difference exists between the participation rates of young people in the outlying regions of the Province compared to those for areas closer to universities. While geographic access is an important explanatory factor, it falls short of completely accounting for the situation.

Limited opportunity is one side of the picture. The other side shows potential shortages in the supply of professional and technical manpower with constraining effects on economic performance. For example, Figures 3 and 4 below, show that B.C.'s production of graduates in engineering and commerce are well below the national average. The same is true in many scientific areas, particularly in mathematics.[2] Obviously deficits in these areas have a real cost in economic terms.

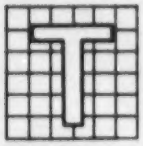
But the emphasis of this report is to present the facts, not to detail the consequences or to analyse the reasons for B.C.'s decline. In fact it is doubtful whether anyone could explain why the situation has developed as it has. Successive ministries and personali-

ties have come and gone over the past 15 years. It is virtually impossible to reconstruct the chronology of policy decisions, large and small, within and outside B.C., which have contributed to the present situation. Our principal objective is to give a thorough summary of the statistical evidence.

[1]This appendix is available on request.

[2]In 1978 B.C. was about 40% below the national average in mathematics degrees, and 25% below in the joint category of mathematics and physical sciences. The highest demand for graduates has been in the areas of computing, commerce and engineering.
See *Universities: Enrolment and degrees,* Statistics Canada, 1978, and "Careers and the Job Market" Special Report, *Financial Post,* October 1980.

II — DEGREES PER CAPITA



able 1 shows B.C.'s current standing in degrees per capita—the figures for 1979/80 and 1980/81 are based on projections by Statistics Canada. The measures are expressed in a form familiar in the reporting of medical statistics. The entries in each row show the "relative risk" of getting a degree in other provinces compared to B.C. Some interpretation may be helpful. It took approximately 5,400 members of B.C.'s youth population to earn 100 degrees in 1977/78, populations of the same size in the rest of Canada averaged 161 degrees. Or more simply stated, for groups of equal size, three degrees were awarded in the rest of Canada for every two in B.C.

TABLE 1

Comparison Between B.C. and Other Provinces for Bachelor's and First Professional Degrees Per Capita

YEAR	MARITIMES	QUEBEC	ONTARIO	MANITOBA	SASKATCHEWAN	ALBERTA	BRITISH COLUMBIA	CANADA
1977/78	152	125	199	178	135	136	100	161
1978/79	157	124	194	182	140	143	100	160
1979/80	150	135	186	175	140	130	100	158
1980/81	155	138	192	182	139	130	100	163

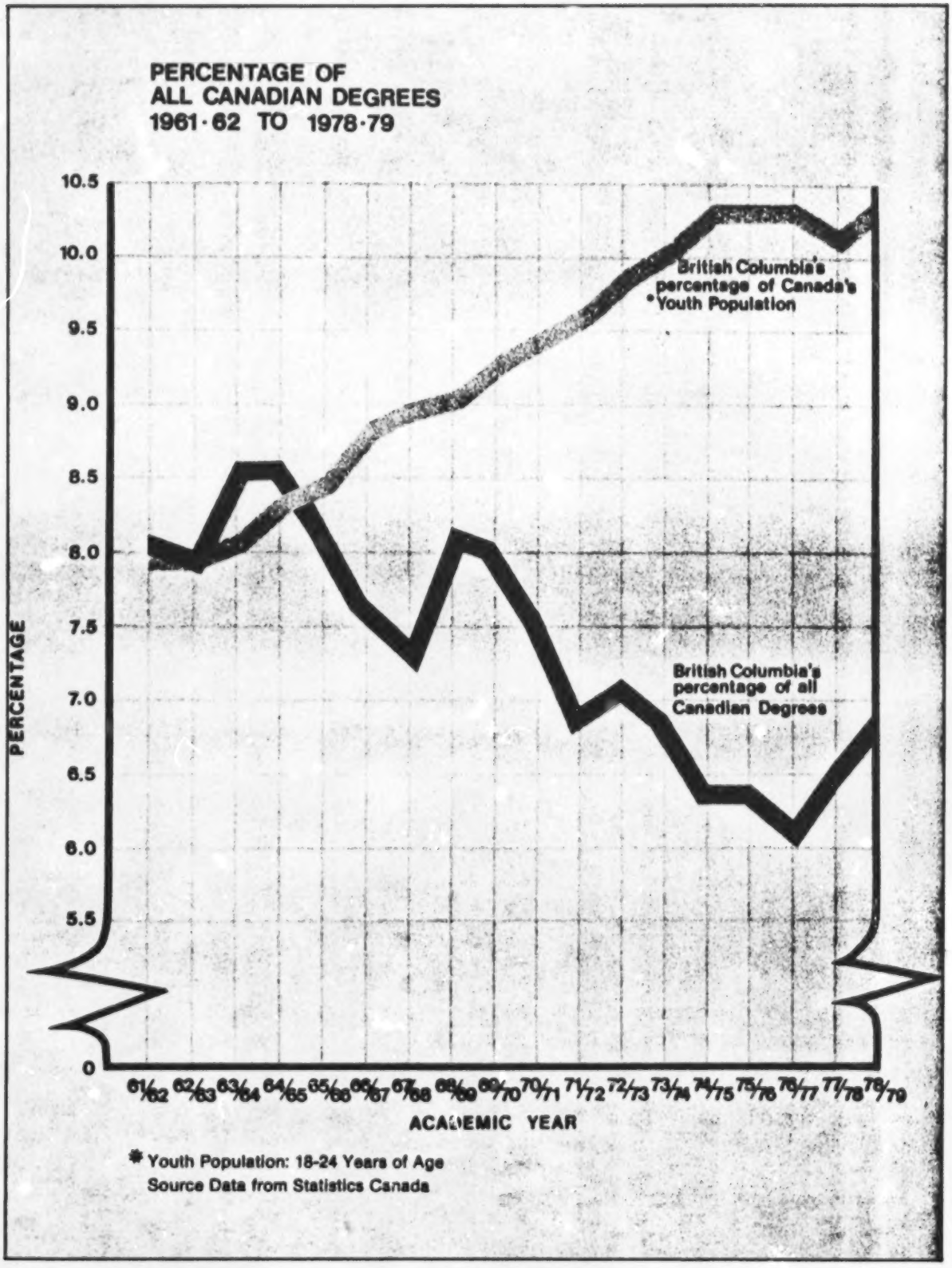
Note: Canada Refers to Canada without B.C.

Source Data: Population Projections: Statistics Canada, *The Class of 2001*
Education Projections: Statistics Canada, *Advance Statistics of Education,* Catalogue 81-220.

Table 1 can be summarized as follows: B.C. shows the lowest rank of all regions and the differences are strikingly large. Young people in Ontario are about *twice* as likely to earn degrees as young people are in B.C. Another way to express this is to say that Ontario has a 90% to 100% advantage in relative probability.

Comparing the rest of Canada as a whole to B.C. shows a 60% advantage for the former. For Manitoba the advantage is 80%, for the Maritimes, 50%, and for the remaining provinces, Quebec, Saskatchewan and Alberta, 30%.

The historical pattern is shown in Figure 1. B.C.'s percentage of total Canadian degrees is contrasted with B.C.'s percentage of the national youth population.

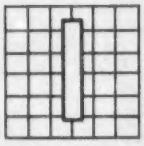

PERCENTAGE OF
ALL CANADIAN DEGREES
1961·62 TO 1978·79
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
0
PERCENTAGE
British Columbia's
percentage of Canada's
* Youth Population
British Columbia's
percentage of all
Canadian Degrees
61/62 62/63 63/64 64/65 65/66 66/67 67/68 68/69 69/70 70/71 71/72 72/73 73/74 74/75 75/76 76/77 77/78 78/79
ACADEMIC YEAR
* Youth Population: 18-24 Years of Age
Source Data from Statistics Canada

4 FIGURE 1

The graph indicates that in 1977/78 B.C. had 10.3% of Canada's youth population, but only 6.6% of Canada's degrees. If B.C. had awarded 10.3% of Canada's degrees it would have produced 3,600 more graduates in 1977/78 alone. Compared to the leading province, Nova Scotia, B.C. was 6,500 degrees behind. To equal Nova Scotia this Province would have had to *more* than double its graduates. Among ten provinces B.C. occupied tenth place.

It is clear from the graph that this pattern has been a long standing one. B.C.'s share of Canada's youth population has been increasing while its share of degrees has been decreasing. B.C.'s cumulative shortfall in degrees with respect to the national average, from 1970/71 to 1977/78 was about 23,000.

III — PROFESSIONAL DEGREES PER CAPITA



t is interesting to make a separate comparison for professional degrees. By "professional" we mean: agriculture, architecture, commerce, education, engineering, forestry, law, dentistry, medicine, nursing, optometry, pharmacy, rehabilitation medicine, and veterinary medicine. Figure 2 shows B.C.'s share of degrees in these fields against its share of population. The results are nearly the same as in Figure one.

In 1977/78 B.C. fell 1,800 professional degrees short of the national average. Among the ten provinces B.C. ranked ninth, exceeding only P.E.I. The cumulative shortfall in professional degrees with respect to the national average from 1970/71 to 1977/78 was about 11,000.

Table 2 shows professional degree comparisons for the four most recent years of data. Comparison with Table 1 shows a slightly larger gap for B.C. in professional areas than in degrees over all categories. In particular, the prairie provinces show a much stronger relative position to B.C. in the professions. (B.C.'s improved position with respect to Ontario in the later years results from a significant drop in education degrees in Ontario.)

TABLE 2

Comparison Between B.C. and Other Provinces for Professional Degrees Per Capita

YEAR	MARITIMES	QUEBEC	ONTARIO	MANITOBA	SASKATCHEWAN	ALBERTA	BRITISH COLUMBIA	CANADA
1975/76	216	143	191	186	212	196	100	180
1976/77	193	151	182	189	195	193	100	176
1977/78	182	154	159	190	184	184	100	166
1978/79	182	159	139	187	190	191	100	161

Note: Canada Refers to Canada without B.C.

Source Data: Population Projections: Statistics Canada, *The Class of 2001*
Degree Figures: Statistics Canada—Catalogues 81-229; 81-211

The gap between B.C. and the national average appears to have increased over time more in the professional than in the general area although this conciusion may depend on the years selected for comparison. If, for example, the numbers are compared between the two years 1966/67 and 1977/78, B.C.'s deficit in professional degrees increased

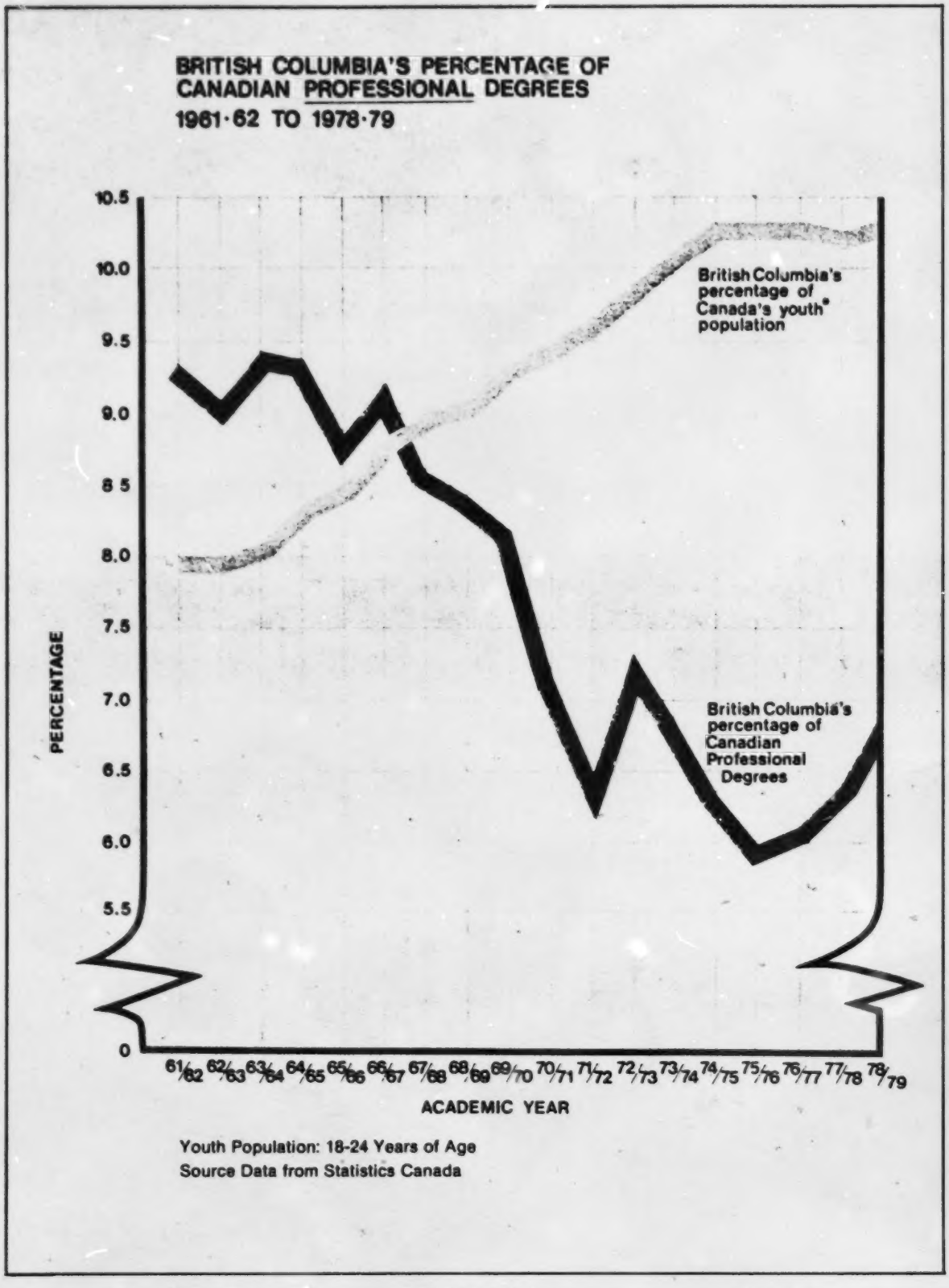

BRITISH COLUMBIA'S PERCENTAGE OF
CANADIAN PROFESSIONAL DEGREES
1961·62 TO 1978·79
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
0
PERCENTAGE
British Columbia's percentage of Canada's youth* population
British Columbia's percentage of Canadian Professional Degrees
61/62 62/63 63/64 64/65 65/66 66/67 67/68 68/69 69/70 70/71 71/72 72/73 73/74 74/75 75/76 76/77 77/78 78/79
ACADEMIC YEAR
Youth Population: 18-24 Years of Age
Source Data from Statistics Canada

FIGURE 2

7

by 1,900 compared with an increase of 1,100 in the non-professional category. (This is based on data shown in Table 4 below.)

A series of graphs follow comparing per capita degree output in B.C. against the rest of Canada for the major professional fields of study.

Numerical summaries are given in Tables 3 and 4. The first shows B.C.'s rank among the ten provinces by field of study over time. (The "major" heading in the table refers to the total of the major professional areas in the last six columns of the table.)

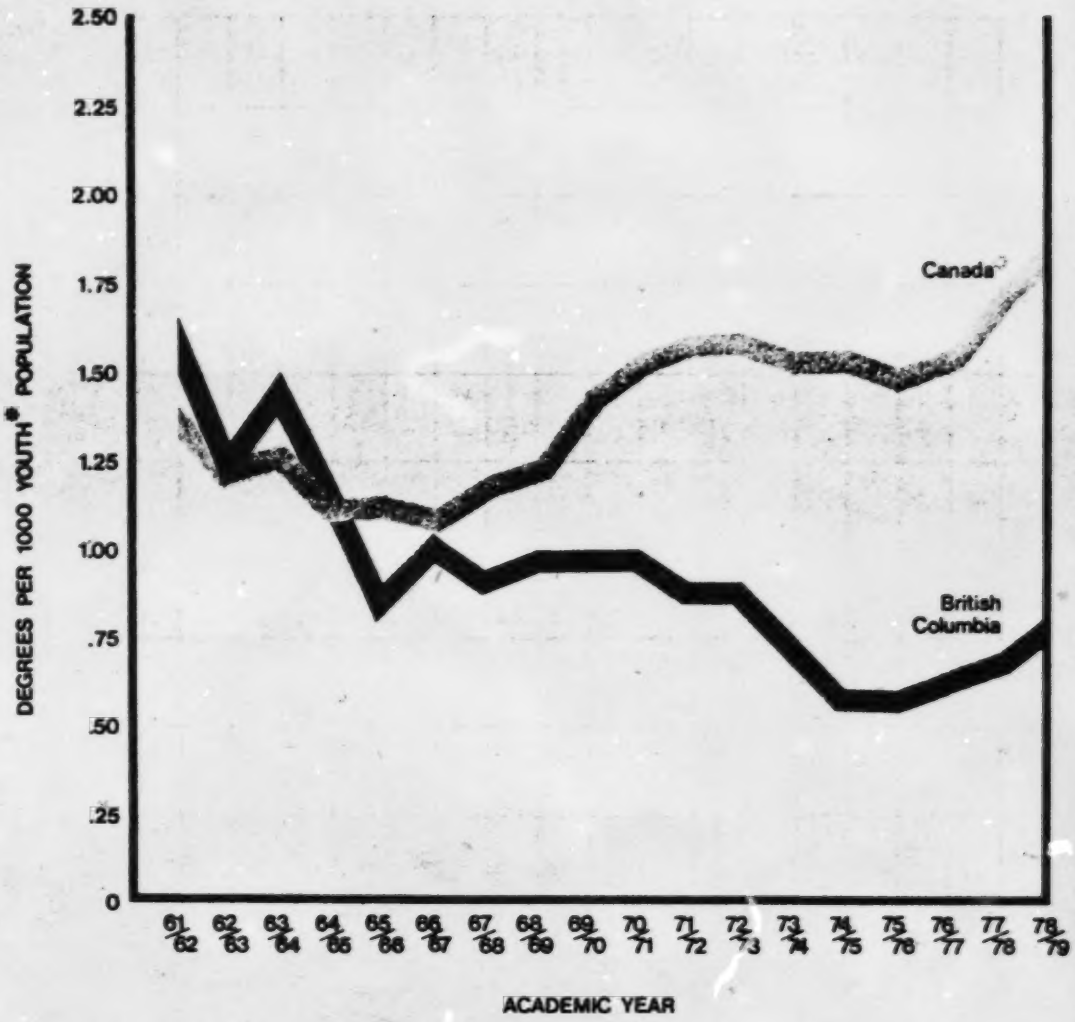
TABLE 3

B.C.'s Ranking for Degrees Per Capita*

YEAR	TOTAL	PROFESSIONAL	NON-PROFESSIONAL	MAJOR	COMMERCE	EDUCATION	ENGINEERING	LAW	MEDICINE	NURSING
1961/62	5(+)	4(+)	6(-)	5(+)	3(+)	6(+)	4(+)	1(+)	6(-)	1(+)
1962/63	4(+)	4(+)	6(-)	5(+)	2(+)	4(+)	6(+)	2(+)	6(-)	6(-)
1963/64	3(+)	4(+)	5(+)	4(+)	5(-)	4(+)	5(+)	2(+)	7(-)	7(-)
1964/65	5(+)	6(+)	6(-)	6(+)	5(-)	4(+)	7(+)	4(+)	7(-)	2(+)
1965/66	5(-)	6(+)	6(-)	6(+)	7(-)	5(+)	7(-)	3(-)	7(-)	7(-)
1966/67	8(-)	5(+)	7(-)	5(+)	6(+)	5(+)	6(-)	4(+)	7(-)	8(-)
1967/68	8(-)	7(-)	7(-)	6(-)	6(+)	7(+)	7(-)	3(+)	7(-)	8(-)
1968/69	9(-)	7(-)	6(-)	7(-)	7(-)	7(+)	7(-)	7(-)	7(-)	8(-)
1969/70	9(-)	7(-)	7(-)	7(-)	7(-)	7(-)	7(-)	5(-)	7(-)	8(-)
1970/71	9(-)	8(-)	8(-)	10(-)	8(-)	9(-)	8(-)	5(+)	7(-)	9(-)
1971/72	9(-)	10(-)	8(-)	10(-)	9(-)	9(-)	8(-)	6(-)	8(-)	9(-)
1972/73	9(-)	10(-)	8(-)	10(-)	9(-)	9(-)	8(-)	5(-)	8(-)	9(-)
1973/74	10(-)	10(-)	8(-)	10(-)	9(-)	9(-)	9(-)	8(-)	8(-)	7(-)
1974/75	10(-)	10(-)	7(-)	10(-)	10(-)	10(-)	9(-)	6(-)	8(-)	9(-)
1975/76	10(-)	10(-)	8(-)	10(-)	9(-)	10(-)	9(-)	7(-)	8(-)	9(-)
1976/77	10(-)	9(-)	7(-)	10(-)	9(-)	10(-)	8(-)	5(-)	8(-)	8(-)
1977/78	10(-)	9(-)	5(-)	10(-)	9(-)	10(-)	9(-)	5(-)	8(-)	7(+)
1978/79	9(-)	9(-)	6(-)	9(-)	9(-)	9(-)	8(-)	4(+)	8(-)	6(-)

**Symbols in the Brackets indicate if B.C. is above all Canadian average (+) or below it (-).*

ENGINEERING DEGREES PER CAPITA
BRITISH COLUMBIA & CANADA
1961·62 TO 1978·79



* Youth Population: 18-24 Years of Age
° Canada is Canada Excluding British Columbia
Source Data from Statistics Canada

FIGURE 3

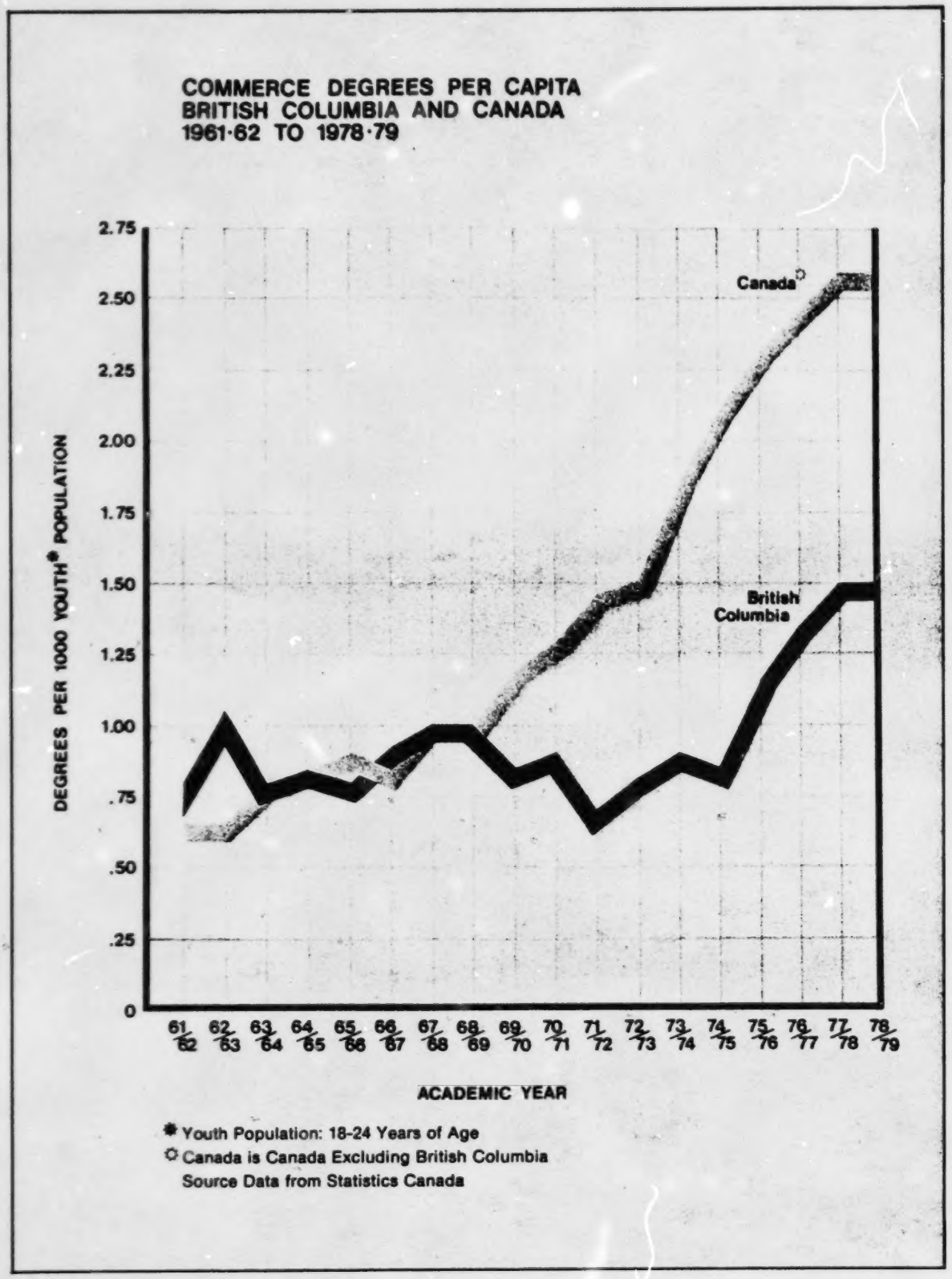

COMMERCE DEGREES PER CAPITA
BRITISH COLUMBIA AND CANADA
1961·62 TO 1978·79
DEGREES PER 1000 YOUTH* POPULATION
2.75
2.50
2.25
2.00
1.75
1.50
1.25
1.00
.75
.50
.25
0
Canada°
British Columbia
61/62 62/63 63/64 64/65 65/66 66/67 67/68 68/69 69/70 70/71 71/72 72/73 73/74 74/75 75/76 76/77 77/78 78/79
ACADEMIC YEAR
* Youth Population: 18-24 Years of Age
° Canada is Canada Excluding British Columbia
Source Data from Statistics Canada

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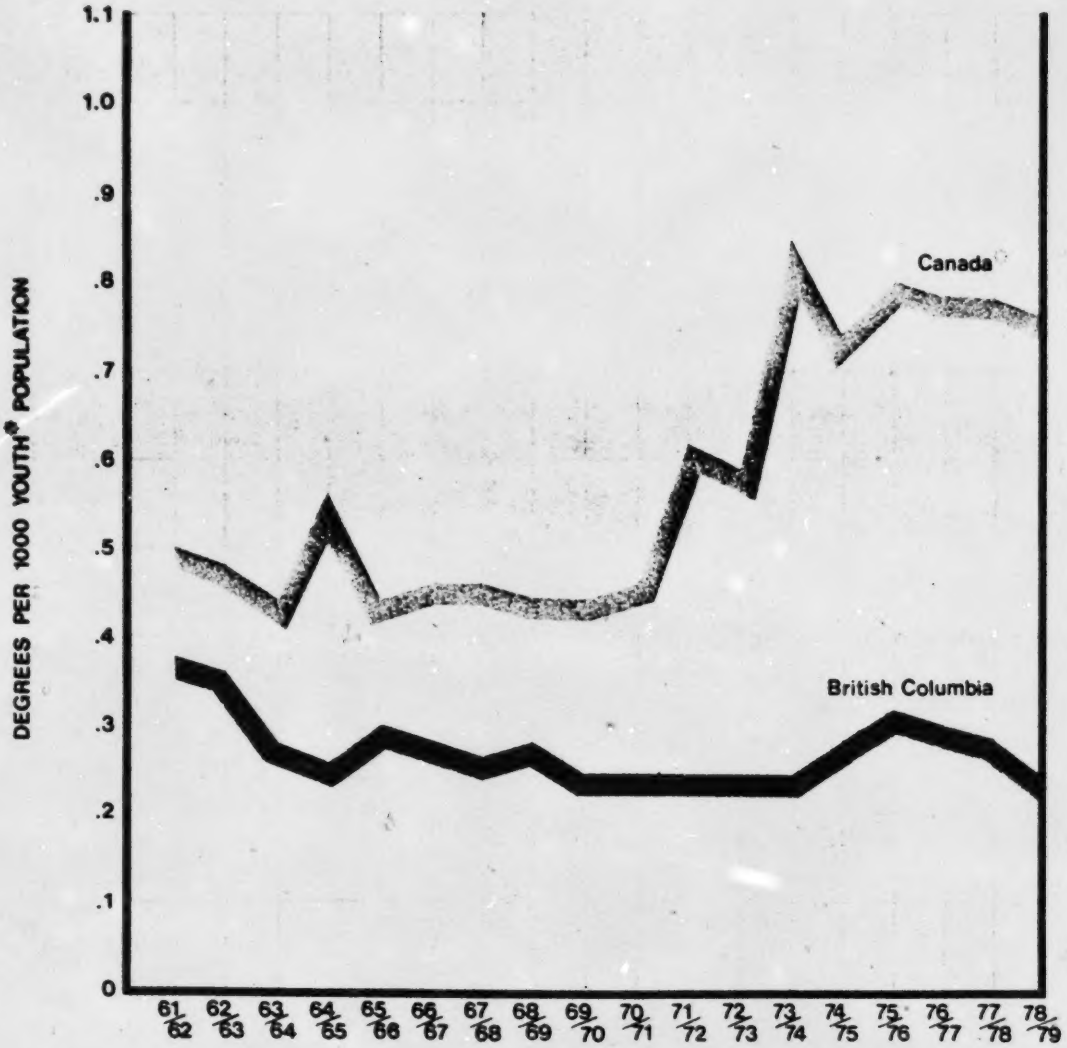
FIGURE 4

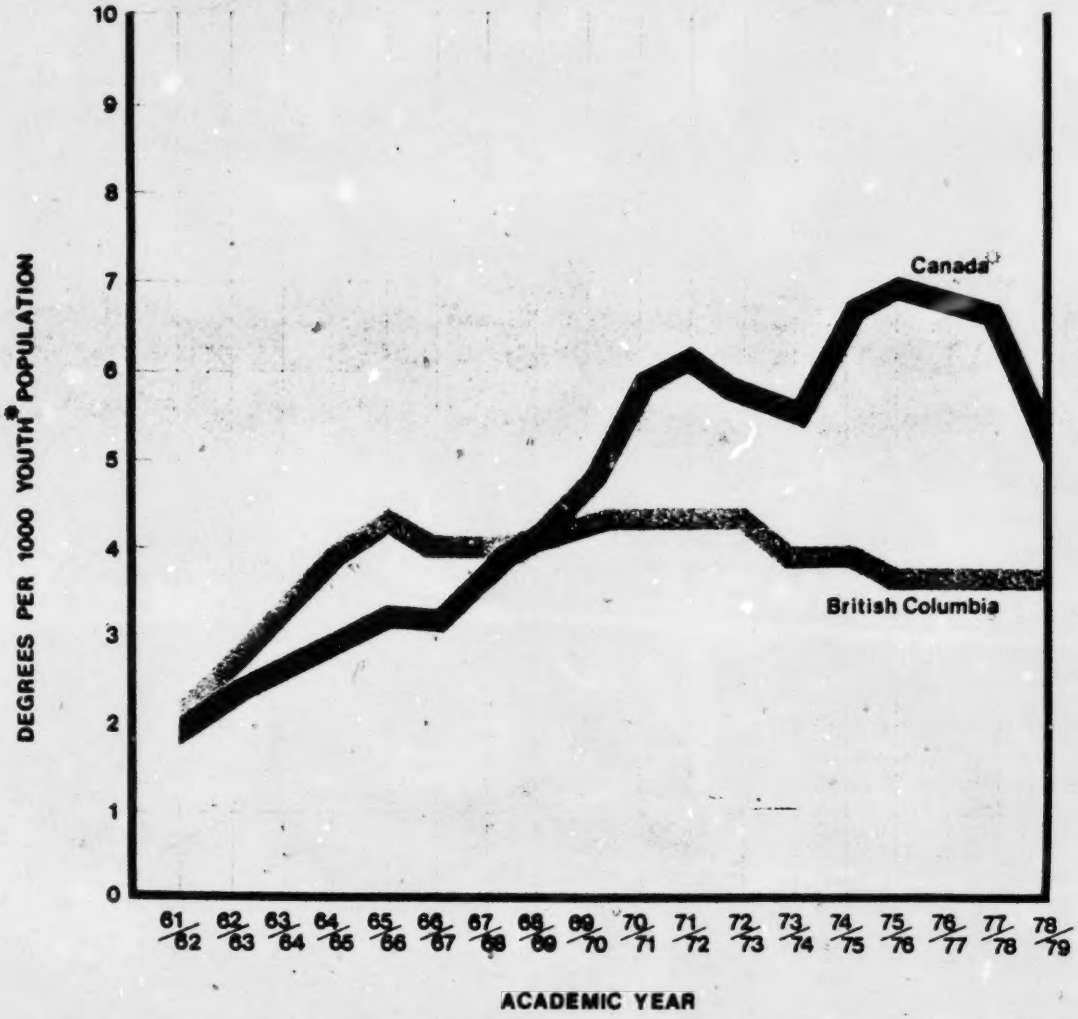
MEDICINE DEGREES PER CAPITA
BRITISH COLUMBIA AND CANADA
1961-62 TO 1978-79



* Youth Population: 18-24 Years of Age
○ Canada is Canada Excluding British Columbia
Source Data from Statistics Canada

FIGURE 5

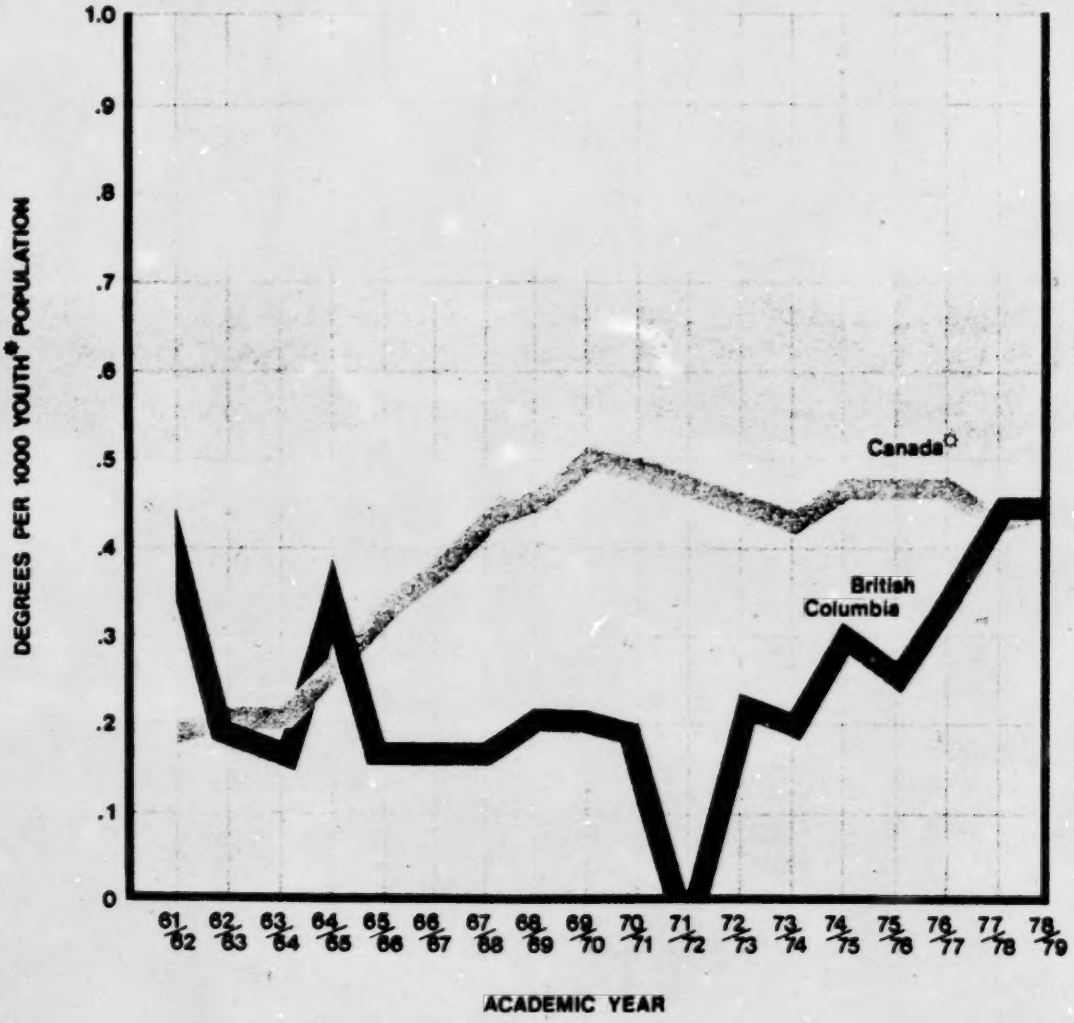
EDUCATION DEGREES PER CAPITA
BRITISH COLUMBIA & CANADA
1961·62 TO 1978·79



* Youth Population: 18-24 Years of Age
☼ Canada is Canada Excluding British Columbia
Source Data from Statistics Canada

12 FIGURE 6

BACCALAUREATE NURSING DEGREES PER CAPITA
BRITISH COLUMBIA AND CANADA
1961·62 TO 1978·79

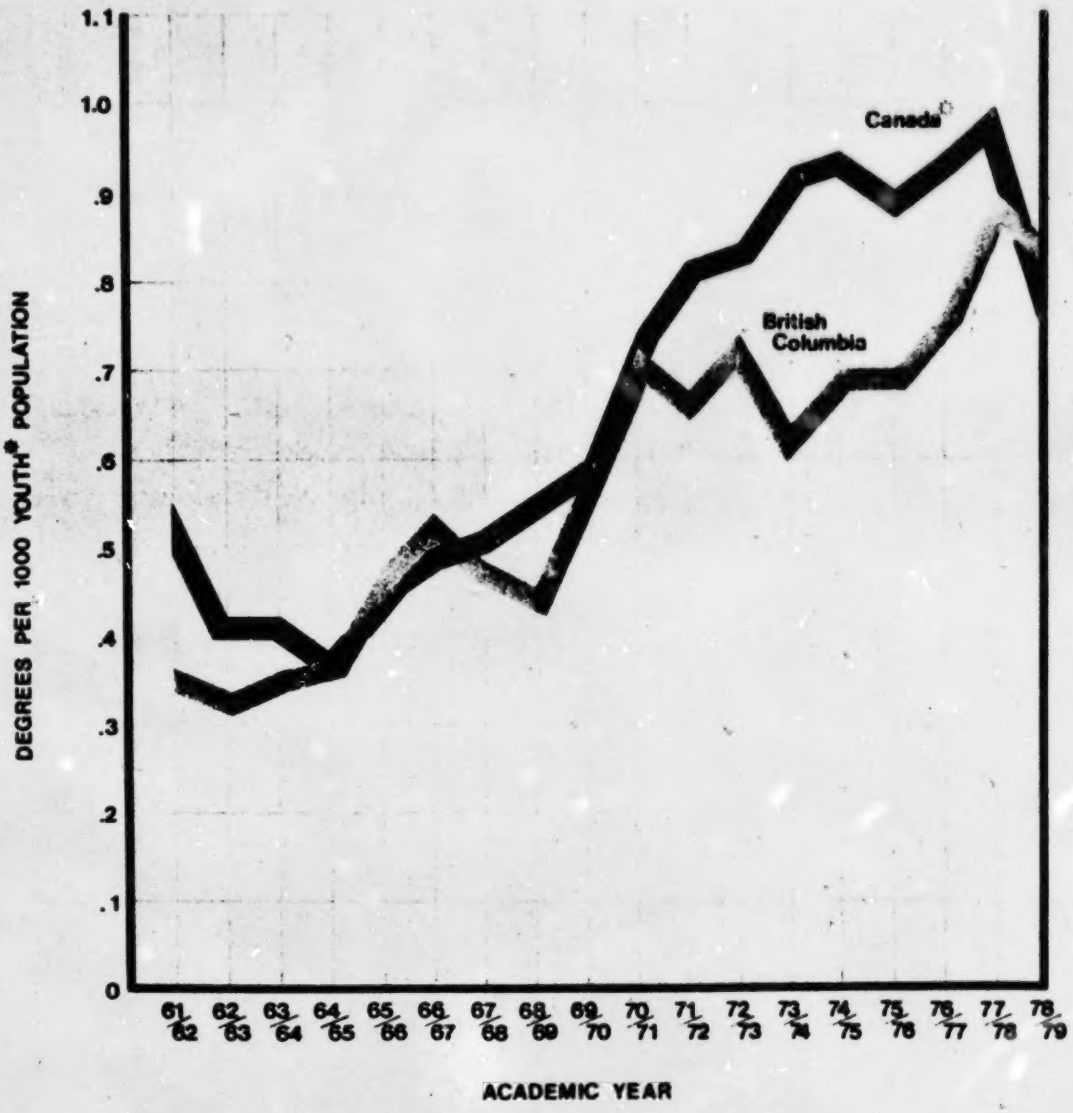


* Youth Population: 18-24 Years of Age
☼ Canada is Canada Excluding British Columbia
Source Data from Statistics Canada

FIGURE 7

13

LAW DEGREES PER CAPITA
BRITISH COLUMBIA AND CANADA
1961-62 TO 1978-79



* Youth Population: 18-24 Years of Age

☼ Canada is Canada Excluding British Columbia

Source Data from Statistics Canada

14

FIGURE 8

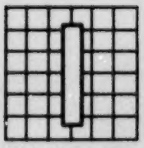
Table 4 shows the B.C. shortfall with respect to the rest of Canada by field and over time. Measured against the national per capita (ages 18-24) degree rate, it is evident that this Province is missing large numbers of university graduates.

TABLE 4

Missing Degrees in B.C.

YEAR	TOTAL	PROFESSIONAL	NON-PROFESSIONAL	MAJOR	COMMERCE	EDUCATION	ENGINEERING	LAW	MEDICINE	NURSING
1961/62	-26	-153	126	-125	-20	-28	-34	-25	16	-33
1962/63	-5	-129	124	-117	-56	-66	-5	-11	17	4
1963/64	-166	-164	-2	-135	0	-129	-26	-9	21	8
1964/65	-113	-142	29	-117	4	-151	-4	1	48	-15
1965/66	146	-45	191	-39	19	-150	43	-5	25	29
1966/67	554	-74	629	-88	-6	-156	9	-11	35	40
1967/68	851	88	763	67	-6	-75	51	6	40	52
1968/69	573	162	411	164	2	-11	61	23	37	52
1969/70	788	286	502	408	84	98	106	-1	49	71
1970/71	1461	753	708	755	108	373	141	6	52	76
1971/72	2223	1109	1114	1087	190	469	175	33	96	124
1972/73	2107	884	1223	902	192	337	190	27	92	64
1973/74	2644	1195	1449	1225	269	438	225	75	166	53
1974/75	3541	1684	1856	1681	371	778	274	74	136	48
1975/76	3693	1917	1776	1925	356	1029	269	61	147	62
1976/77	3935	1934	2001	1897	344	1013	290	59	153	39
1977/78	3613	1828	1785	1791	347	926	342	23	158	-6
1978/79	3114	1702	1413	1662	373	769	353	-8	173	1

IV — EFFECTS OF MIGRATION ON RATES



t has been noted that the gap in degrees between B.C. and the rest of Canada reflects the Province's falling share of Canadian degrees and rising share of national youth population.

Further analysis of B.C.'s rising share of national youth population is useful for a clear interpretation of the overall results. From 1961 to 1979 this share increased from 8% to 10.3% (Figure 1). Consider this debatable hypothesis:

> the increase resulted entirely from large numbers of immigrants to the Province who characteristically preferred not to attend university.

Only a small part of the "degree gap" can be explained by this argument. Statistics Canada supplied data on immigration by age groups by province of destination both from abroad and from other Canadian provinces between 1971 and 1978. Migrants and immigrants can be removed from the population and the degree rates recalculated to see how the results are affected. No distinction is based on Canadian or foreign origins; for convenience both classes are collectively designated as *migrants*.

The number of migrants in the 15-19 and 20-24 groups are known for each year. Assuming a uniform distribution in the first class, we can estimate the migrant component of the 18-24 group. We emphasize that migrants will be removed from the population, not only in the year of arrival, but forever after (for each 18 year old migrant arriving in 1971 we subtract one from the youth population for each subsequent year until 1978). In other words, we are making very strong assumptions aimed at narrowing the degree gap to the maximum extent.

From 1971 to 1978 the annual average of youth migrants to B.C. was 18,000. We simplify and assume the number had this constant value in each year. We also assume that this constant flow of 18,000 was in effect for each year from 1965 onward in order to allow for those who arrived before 1971 but who still affected the rates in later years. Assuming that the numbers were uniformly distributed within the 18-24 class, we are supposing that there were in total C=18,000/7 migrants to B.C. in each single year of age for each of the years from 1965 to 1978.

How many migrants were in the B.C. youth population in a given year? It is not difficult to see that there were 7×C who arrived this year, 6×C from a year ago, and so on, back to 1×C from six years ago. Adding these together gives an estimate of 72,000 in the B.C. youth population who migrated to the Province between their eighteenth and twenty-fourth

year. The same procedure for Canada (excluding B.C.) gives an estimate of 463,000. These numbers are removed from the respective populations in each year and the result of the adjustment is shown in Figure 9.

The top line is B.C.'s share of youth population without adjustment. The middle line shows B.C.'s share of *non-migrant* youth population. The bottom curve is B.C.'s share of degrees. The average difference between the two youth population lines is 1% for the years 1971 to 1978.

How does this affect the relative standing of B.C.? Table 5 shows the shift in provincial rank and degree shortfall with the migrant adjustment applied to the per-capita rates. There is only a marginal improvement in B.C.'s position.

TABLE 5

Rank and Missing Degrees with and without Adjustments for Immigration

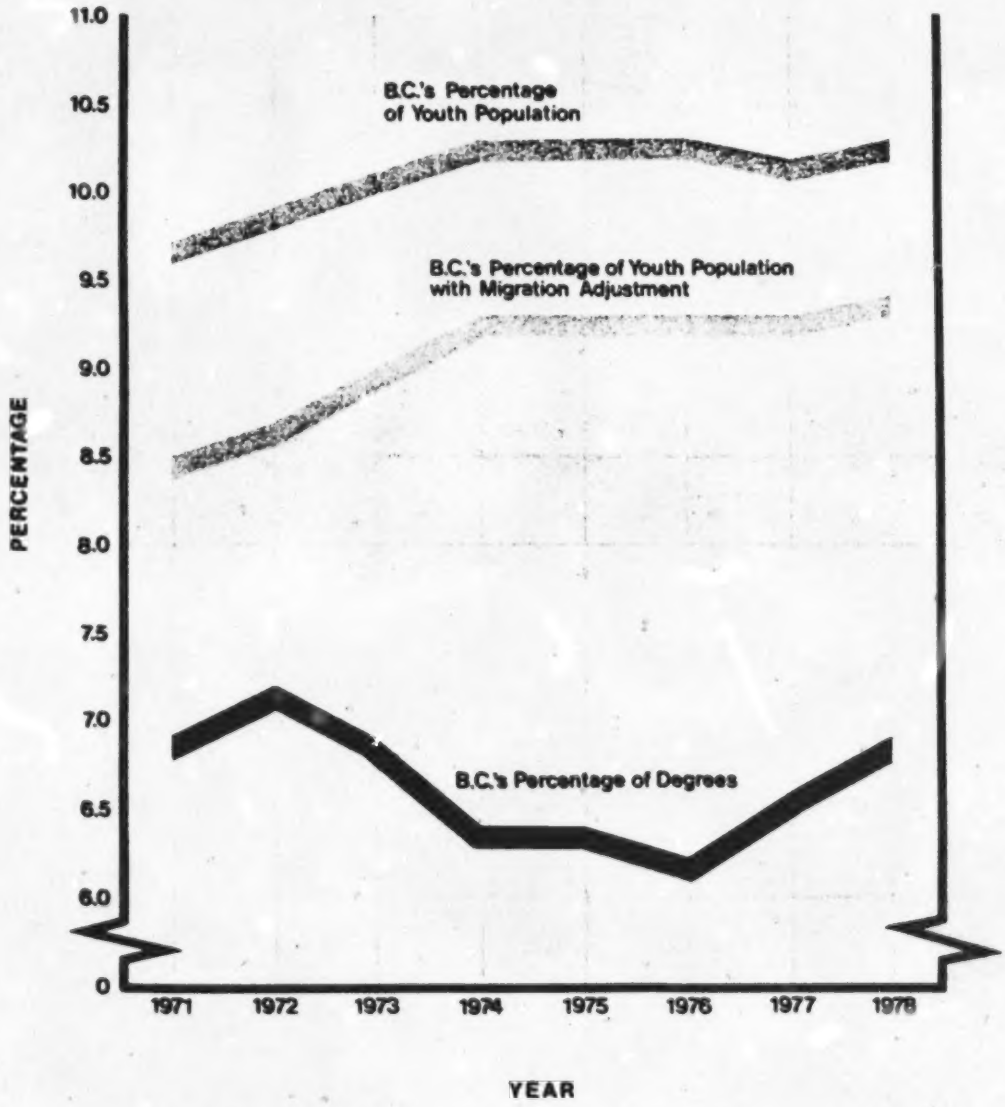
	MISSING DEGREES		DEGREES/CAPITA RANKING	
YEAR	WITHOUT ADJUSTMENT	WITH ADJUSTMENT	WITHOUT ADJUSTMENT	WITH ADJUSTMENT
1971/72	2223	1203	9	8
1972/73	2107	1160	9	7
1973/74	2644	1695	10	8
1974/75	3541	2585	10	8
1975/76	3693	2741	10	7
1976/77	3935	2951	10	7
1977/78	3613	2635	10	7
1978/79	3114	2235	9	7

These adjustments are made on the supposition that the migrants typically prefer not to attend university. Of course this assumption is debatable. It is equally plausible to speculate that the group is as mobile educationally as it is geographically. But if arguments are presented, for example, (i) that migrants are only half as likely to enroll or (ii) will not attend during their first year in the Province but will enroll with equal probability thereafter—we now see for any variant of this argument that the population share will be positioned between the top two lines of Figure 9 and therefore, will be well in excess of B.C.'s share of degrees in any case.

One further technical point should be mentioned: the degree rates have been calculated on the basis of the 18-24 population. But not many degrees are awarded to 18, 19 or 20 year olds. While it might have been preferable to normalize by the 21-24 year population, we worked from the published 18-24 data.

As a check, a calculation was made based on single years of age data from 18 to 24 years by province from 1965 to 1977. For this period B.C.'s share of the national 21-24 year population was slightly in excess of its share for the 18-24 group. Thus, the alternative procedure would give even *lower* rates for B.C.

BRITISH COLUMBIA'S PERCENTAGE OF THE CANADIAN YOUTH POPULATION AND DEGREES 1971 TO 1978



Source Data from Statistics Canada

18

FIGURE 9

V — POST-SECONDARY ENROLMENT RATES

We turn to per-capita enrolment rates or participation rates. The enrolment data are unwieldly compared to degree data. Receipt of a degree is a definite event which admits no confusion in counting or interpretation. By contrast, enrolment statistics vary widely and comparisons involve many complications.

The Statistics Canada enrolment counts generally differ from those reported by provincial agencies—this fact may have to do with different reporting dates and definitions. There are full and part-time enrolments. How are they to be weighted to get full-time equivalents? The college systems have "university transfer" program, college preparatory programs and career-technical programs. There are special interest and vocational courses that may be counted sometimes in one category and sometimes in another.

A major problem for those attempting to make sensible inter-provincial comparisons has been the recording method in Quebec where CEGEPs enrolments have been reported sometimes as college level and sometimes as high school enrolments. The official series produced by Statistics Canada reflect this confusion; sometimes the CEGEPs numbers are counted as college enrolment and sometimes not.

Mindful of this "fuzziness" in the data, we describe results of the same sort as for degrees.

Table 6 shows the most current statistics on *full-time university enrolment* translated into the relative risk format explained above. The data for the last two years are based on projections made by Statistics Canada. For comparison, Table 1 on degrees is reproduced here as well. The enrolment rate comparison shows the same general result as the degree comparison—the odds of being enrolled are lower in B.C. than for Canada and for each of the regions. For the rest of Canada there are 13 full-time university students for 10 in B.C. on a per-capita basis.

TABLE 6

Comparison Between B.C. and Other Provinces for Full-Time University Enrolment Per Capita

YEAR	MARITIMES	QUEBEC	ONTARIO	MANITOBA	SASKATCHEWAN	ALBERTA	BRITISH COLUMBIA	CANADA
1978/79	130	96	149	136	128	120	100	126
1979/80	131	101	150	128	127	117	100	128
1980/81	133	105	155	129	129	118	100	131
1981/82	135	109	158	131	131	118	100	134

Note: Canada refers to Canada without B.C.

Source Data: Population projections: Statistics Canada, *The Class of 2001*
Education Projections: Statistics Canada, *Advance Statistics of Education,* Catalogue 81-220.

TABLE 7 (TABLE 1)

Comparison Between B.C. and Other Provinces for Bachelor's and First Professional Degrees Per Capita

YEAR	MARITIMES	QUEBEC	ONTARIO	MANITOBA	SASKATCHEWAN	ALBERTA	BRITISH COLUMBIA	CANADA
1977/78	152	125	199	178	135	136	100	161
1978/79	157	124	194	182	140	143	100	160
1979/80	150	135	186	175	140	130	100	158
1980/81	155	138	192	182	139	130	100	163

Note: Canada Refers to Canada without B.C.

Source Data: Population Projections: Statistics Canada, *The Class of 2001*
Education Projections: Statistics Canada, *Advance Statistics of Education,* Catalogue 81-220.

Table 6 compares regions only on the basis of full-time university enrolment. It is natural to ask whether failure to include part-time and college enrolment biases the comparison against B.C. However, Table 7 shows that B.C. is *further behind in degrees than in enrolment.* If we agree that a major purpose of higher education is to produce university graduates, the inference is immediate—*whatever the net influence of part-time and college enrolments may be on degree production, these factors operate with greater effect elsewhere than in B.C.*

This fact can be shown directly. Table 8 shows the current data on part-time university enrolment in the same format. B.C. is even further behind than for full-time Canadian enrolment.

TABLE 8

Comparison Between B.C. and Other Provinces for Part-Time University Enrolment Per Capita

YEAR	MARITIMES	QUEBEC	ONTARIO	MANITOBA	SASKATCHEWAN	ALBERTA	BRITISH COLUMBIA	CANADA
1978/79	131	250	196	223	177	87	100	197
1979/80	122	242	186	198	161	88	100	186
1980/81	119	249	185	194	159	94	100	188
1981/82	116	258	183	191	159	101	100	189

Note: Canada refers to Canada without B.C.

Source Data: Population projections: Statistics Canada, *The Class of 2001*
Education Projections: Statistics Canada, *Advance Statistics of Education,* Catalogue 81-220.

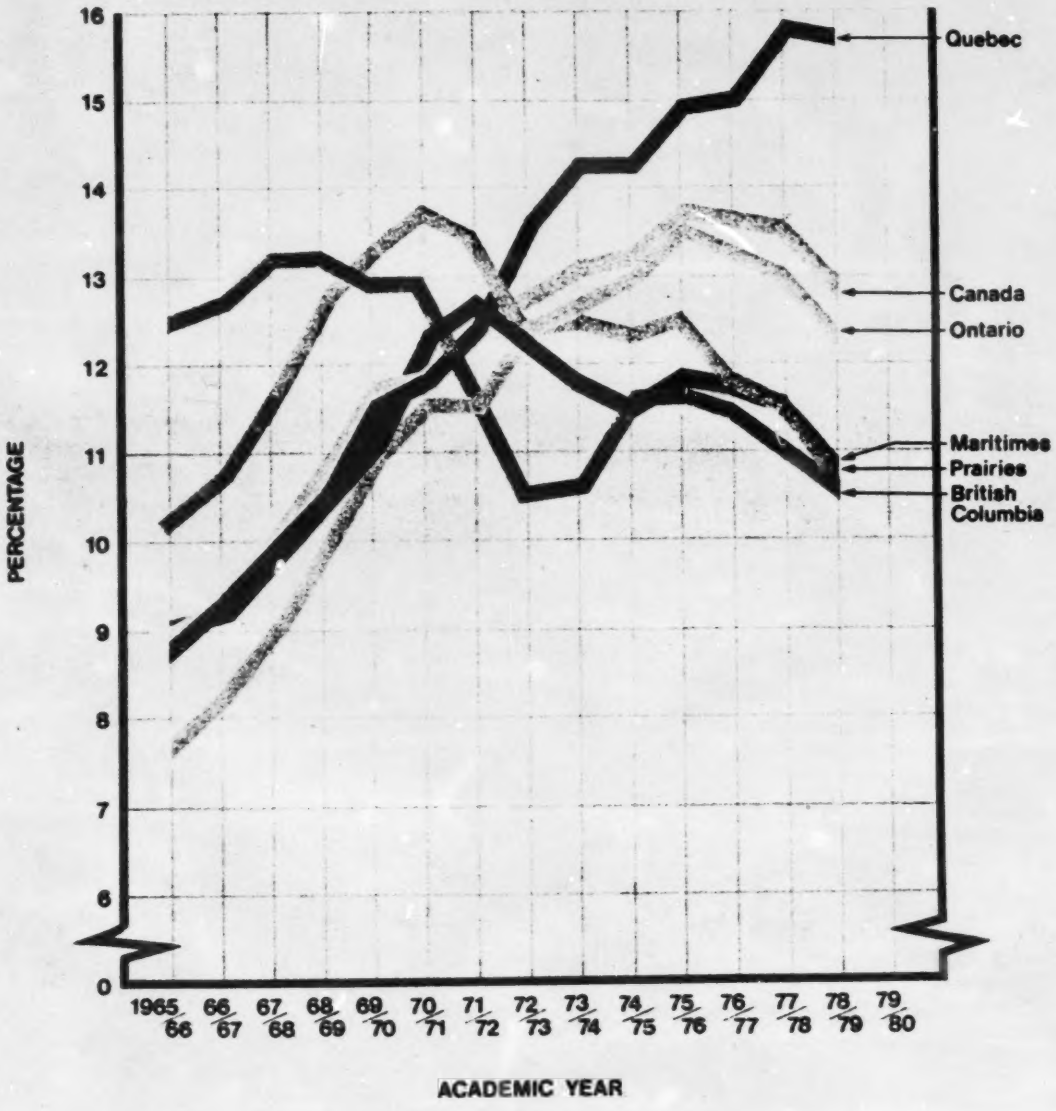
What about college enrolments? From the same statistical source a calculation shows that B.C. currently accounts for about 6% of total enrolment in college career technical-enrolments—contrasted with 10% of youth population.

For "university transfer" enrolment, B.C. accounts for about 9.7% of the total—still below our share of population. However, it is necessary to qualify this observation by noting that the majority of enrolment in this category occurs in Quebec, so that classification problems may effect an understating of the true B.C. proportion.

A recent study[3] showed that actual continuance from "university transfer" programs to university is surprisingly low. Only 16% of "university transfer" students in B.C. actually transfer to university. This fact may upset the notion that these regional college programs are adequately substituting for university programs.

Four graphs are presented which summarize B.C.'s relative position in total post secondary education. Figure 10 shows the rates for university undergraduate and "university transfer" enrolments. Figure 11 includes total university and college enrolments ("university transfer" plus career-technical). Figures 12 and 13 are alternative presentations, showing the ratio of the B.C. rate to the rate for the rest of Canada over all classes of enrolment—that is, university undergraduate, university graduate, "university transfer", and career-technical. Figure 12 includes Quebec, and Figure 13 excludes it from the calculation.

REGIONAL PARTICIPATION RATES
UNIVERSITY PROGRAMS
(WITH QUEBEC)
1965-66 TO 1978-79

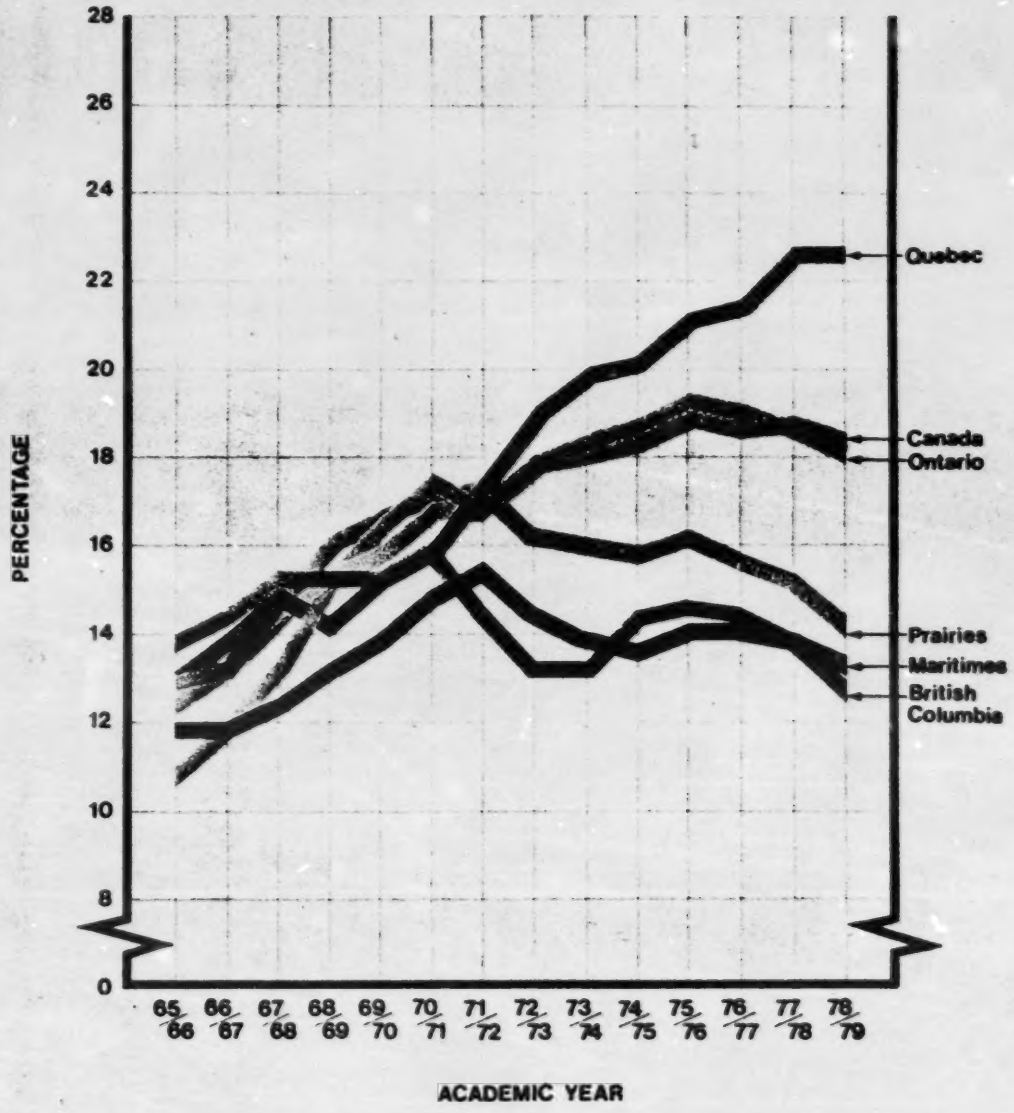


Source Data from Statistics Canada

22

FIGURE 10

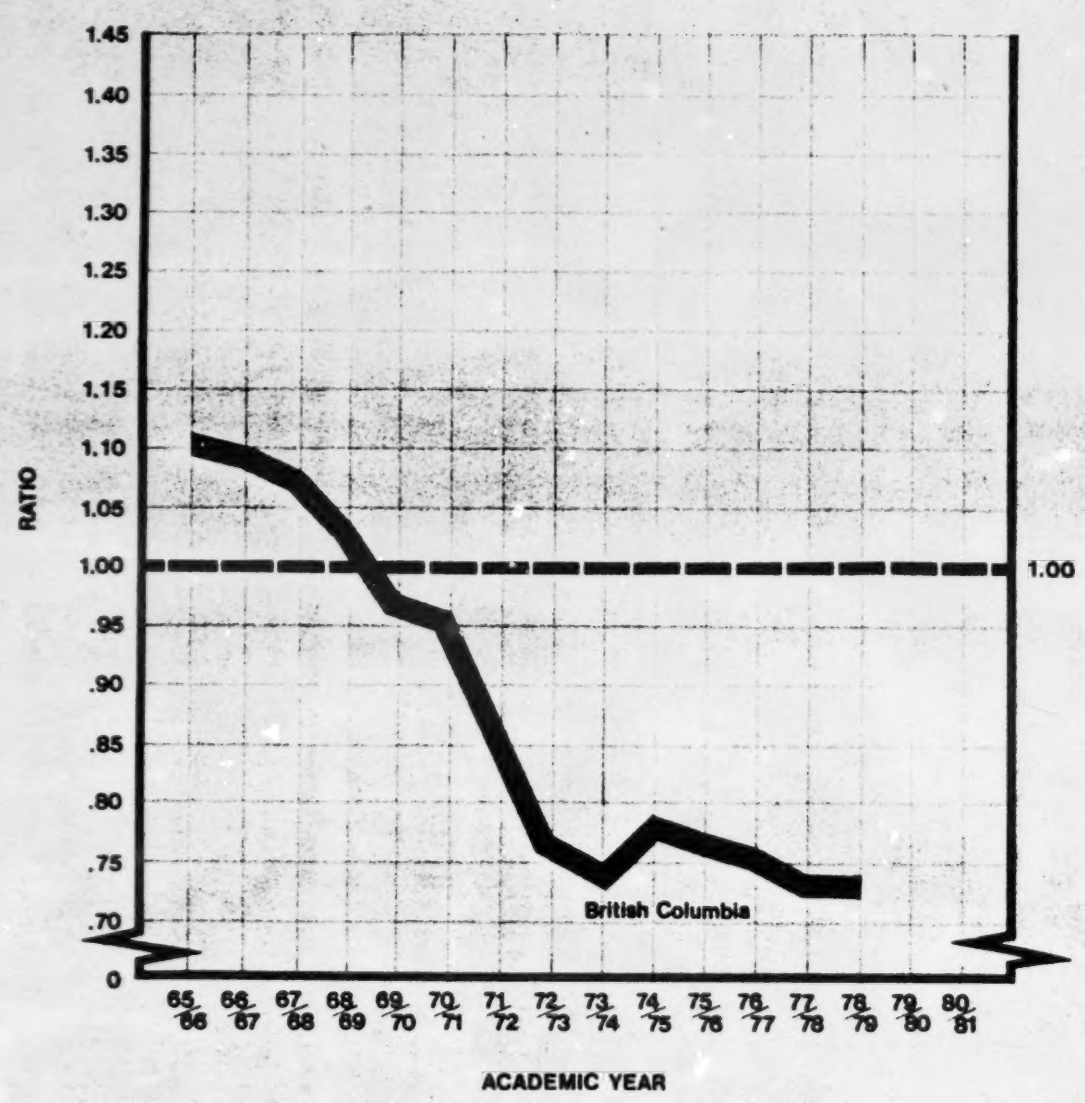
REGIONAL TOTAL POST-SECONDARY PARICIPATION RATES (WITH QUEBEC) 1965·66 TO 1978·79



Source Data from Statistics Canada

FIGURE 11

RATIO OF BRITISH COLUMBIA PARTICIPATION RATE
TO REST·OF·CANADA
(WITH QUEBEC)
1965·66 TO 1978·79

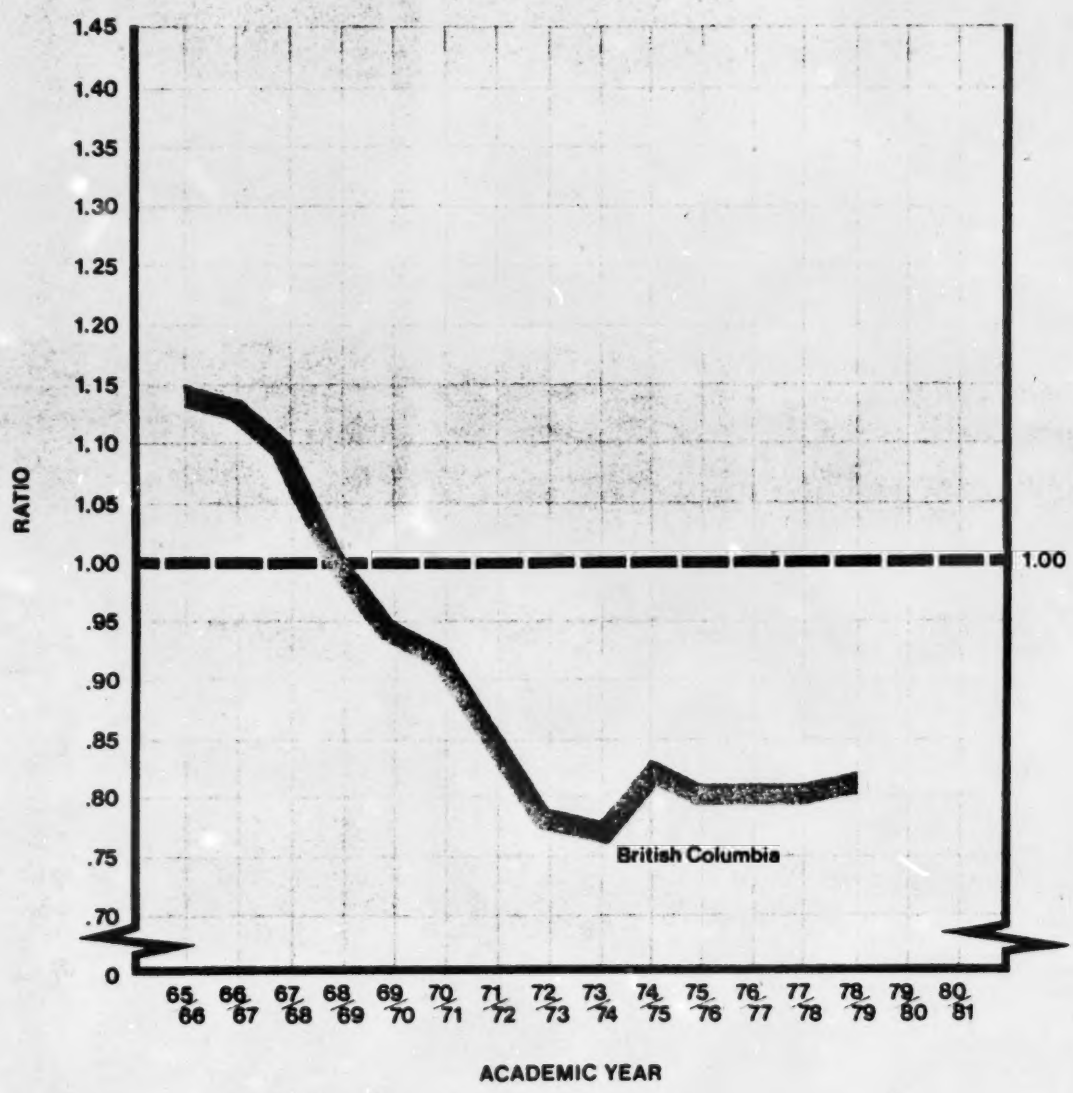


Source Data from Statistics Canada

24

FIGURE 12

RATIO OF BRITISH COLUMBIA PARTICIPATION RATE
TO REST·OF·CANADA
(WITHOUT QUEBEC)
1965·66 TO 1978·79



Source Data from Statistics Canada

FIGURE 13

25

Tables 9 through 11 show the results for various combinations of enrolment categories. Table 9 shows B.C.'s enrolment rates as a percentage of the rates for the rest of Canada over time for each combination. Table 10 shows B.C.'s ranks among the provinces in per capita enrolment over time for each combination. Table 11 shows the shortfalls in enrolment with respect to per capita enrolment in the rest of Canada over time for each combination.

Definition of Groups for Tables 9, 10 and 11

Enrolment Groups 1, 2, 3, 4, 5 (Full-Time)

Group 1: University Undergraduates
Group 2: University Undergraduates and University Transfer
Group 3: University Undergraduates and Graduate Programs
Group 4: University Undergraduates and University Transfer and Career Technical
Group 5: University Undergraduates and Graduate Programs and University Transfer and Career Technical

TABLE 9

B.C. Participation Rate as a Percentage of Canada* Participation Rate

YEAR	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
1965/66	134	140	130	113	111
1966/67	127	136	124	111	110
1967/68	122	132	119	109	108
1968/69	124	122	123	103	104
1969/70	111	111	112	96	98
1970/71	103	106	105	95	96
1971/72	92	95	94	85	87
1972/73	82	82	84	75	77
1973/74	81	81	83	74	75
1974/75	83	88	83	79	79
1975/76	82	85	81	77	77
1976/77	81	84	81	76	76
1977/78	79	81	79	74	74
1978/79	79	82	79	73	74

Canada is rest of Canada

TABLE 10

B.C.'s Rank Among the Provinces for Enrolment Per Capita

YEAR	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
1965/66	1	1	1	1	1
1966/67	1	1	1	1	1
1967/68	3	1	1	1	2
1968/69	6	1	3	2	2
1969/70	6	4	5	4	4
1970/71	8	5	8	5	4
1971/72	8	8	8	9	9
1972/73	9	9	8	9	8
1973/74	8	8	8	8	8
1974/75	8	6	7	7	6
1975/76	8	7	7	7	6
1976/77	8	6	7	7	6
1977/78	8	8	8	7	6
1978/79	8	7	7	5	6

TABLE 11

Missing Enrolment in B.C.

YEAR	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
1965/66	-5306	-6291	-5140	-2754	-2588
1966/67	-4975	-6510	-4840	-2838	-2703
1967/68	-4450	-6635	-4259	-2729	-2538
1968/69	-5117	-5257	-5518	-961	-1362
1969/70	-2749	-2993	-3151	1325	923
1970/71	-868	-1715	-1417	2231	1682
1971/72	2272	1764	1984	6767	6480
1972/73	5141	6123	5093	12140	12092
1973/74	5691	6992	5865	13522	13696
1974/75	5635	4899	6308	11476	12150
1975/76	6314	6353	7278	13364	14328
1976/77	6658	6662	7519	14065	14926
1977/78	7229	8125	8254	15778	16802
1978/79	7181	7922	8167	16187	17174

The possibility exists that by selecting eccentric age groups for normalization and by selecting rare combinations of enrolment categories with particular adjustments for part-time enrolment, Quebec, migration, and peculiarities of the counting procedure for each province, B.C.'s relative position could improve. However, none of the straightforward options presented here produces such a change.

It is possible to break out the enrolment data for professional programs as has been done for degrees. However, this analysis was contained in an earlier report[4] a finding from which is noted: in 14 of 17 professional areas examined, *B.C. was below the Canadian average in enrolment.*

It is possible that changes in definitions and choices about how things should be aggregated would lead to small differences with these results. However, the overall pattern of results is clear: both enrolment and degree calculations assign consistently low ranks to B.C.

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[3]John D. Dennison, Glen Forrester, Gordon Jones *A Study of Non-transfer Students from Academic Programs in the Community Colleges of British Columbia,* Prepared for: Academic Council of British Columbia, August 1980.

[4]Charles Gallagher, *Youth and Participation in British Columbia Post Secondary Education,* University of Victoria, October 25, 1979.

VI GEOGRAPHIC DIFFERENCES IN ENROLMENT RATES

Statistics on differences in participation rates between geographic areas of B.C. are presented. The reporting units for the source data[5] on student home addresses are the college regions which we have separated into two groups: one for greater Vancouver and Victoria and one for all other regions of the Province. For convenience, the groups are labelled "metropolitan" and "non-metropolitan" (although no strict definition of urban residence is implied—the interior cities are included in the non-metropolitan group).

Figure 14 compares the percentage of Grade XII students who become full-time college or university freshmen in the following year.

Both curves show a downward tendency; metropolitan students continue their education at a higher rate and the difference between the two groups has increased over time. Relatively, on the average over time, some 25% fewer Grade XII students from the non-metropolitan region continue on to university level education.

Closely related facts are presented in Figure 15. The percentage of the 18-21 year old population registered as full-time university freshmen in a given year is shown. For the most recent year, on a constant population basis, about five metropolitan students become full-time university freshmen for every two in the non-metropolitan group. Note that the larger difference between groups here reflects the larger tendency of the metropolitan group to reach Grade XII.

While these are imprecise measures they are presented to show that monitoring the extent of geographic access to higher education can be done on the basis of existing data sources. Other researchers may see the importance of the underlying issue and refine the definitions and methods. In particular it would be valuable to search out comparable data for other provinces to examine the relationship with the B.C. data on urban vs rural participation.

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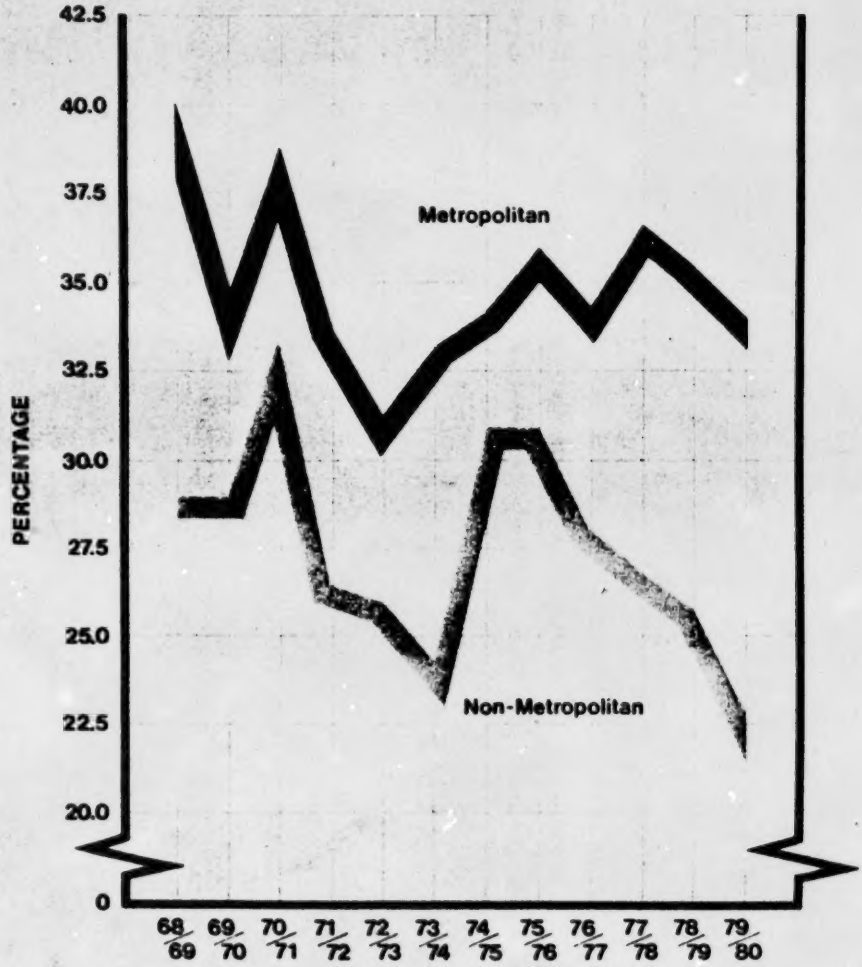
[5]Enrolment data from *Trend Analysis of Enrollments and Participation Percents in British Columbia Post-Secondary Education 1967-1979*, Prepared by Fred Angus for The British Columbia Post-Secondary Education Enrollment Forecasting Committee, Report 33, May 1980.
Youth population data by college region obtained from B.C. Ministry of Industry, Trade and Commerce.

PERCENTAGE OF GRADE XII METROPOLITAN * AND NON-METROPOLITAN STUDENTS ENROLING IN FULL-TIME UNIVERSITY OR NON-VOCATIONAL COLLEGE PROGRAMS 1968-69 TO 1979-80

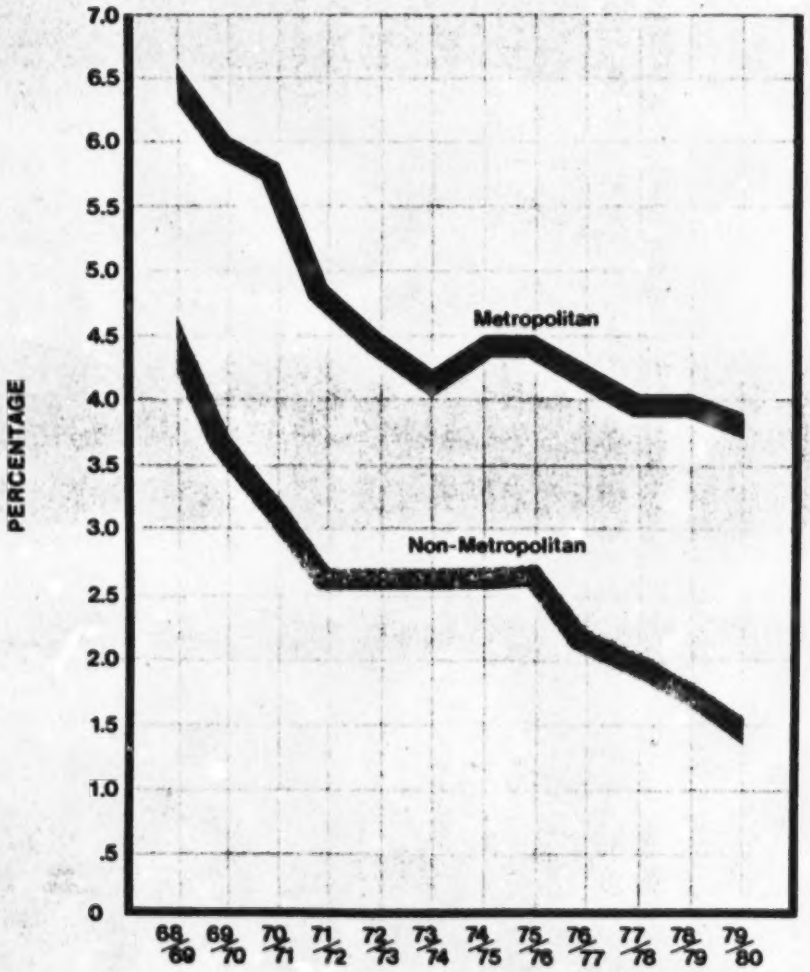


*The source data is recorded by school districts and college regions. In terms of college regions, the metropolitan-non-metropolitan classification is:
Metropolitan college regions: Camosun, Douglas, Capilano, Vancouver, Malaspina
Non-metropolitan college regions: North Island, Fraser Valley, Okanagan, Selkirk, E. Kootenay, Cariboo, Caledonia, Northwest, Northern Lights

Source: Report #31: B.C. Forecasting Committee and College Statistical Report—B.C. Ministry of Education.

FIGURE 14

BRITISH COLUMBIA METROPOLITAN AND NON-METROPOLITAN PARTICIPATION RATES* 1968-69 TO 1979-80



*Shows percentage of 18-20 year old population enrolled as first-time full-time freshmen by metropolitan-non-metropolitan college regions.

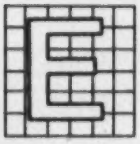
Metropolitan college regions: Camosun, Douglas, Capilano, Vancouver.

Non-metropolitan college regions: Malaspina, North Island, Fraser Valley, Okanagan, Selkirk, East Kootenay, Cariboo, Caledonia, Northwest, Northern Lights

Sources: B.C. Forecasting Committee, Ministry of Economic Development.

FIGURE 15

VII — CONCLUSION



xisting data provide the basis for an informative comparison of trends in higher education between British Columbia and the rest of Canada when these are translated to rates and graphs in time series. The results show clearly that B.C. has not kept pace with other regions or with national norms in post-secondary education.